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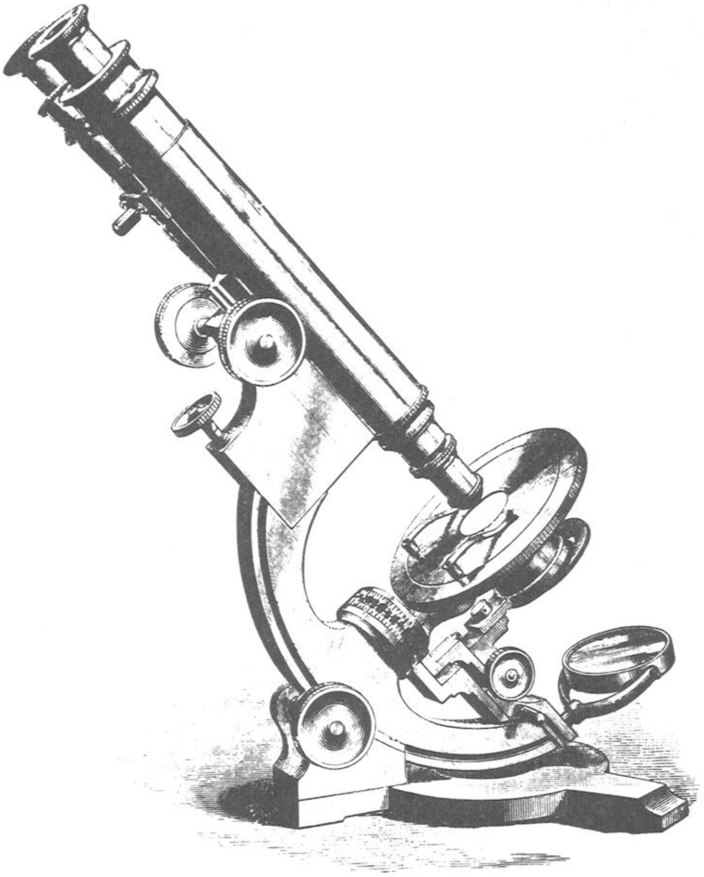
A New Form of Microscope Stand with Concentric Movements.

By Jacob D. Cox, F. R. M. S., Cincinnati, O.

Description—The new features of this stand are the construction of the arm of the instrument in the form of the segment of a circle in which is a circular groove or slot; the pillars of the base have on their inner faces tongues which fit the slot in the arm. The inclination of the instrument is made by the sliding of the whole body along the fixed tongues in the pillars of the base; the center of motion of the whole body is also the optical center of the instrument, around which the stage, the sub-stage bar and the mirror bar all revolve. The body is clamped in any position by the set-screw, with large milled bead, in the base.

Result—The result is a shifting of the center of gravity in changing the inclination of the instrument, so that great stability in all positions is secured, and the optical center is thus made the center of all the circular motions of the parts of the instrument.

Development—The first application of the sliding motion of the body was made by Geo. Wale in his "working model," but he did not make the center of motion the optical center of the instrument. Mr. Wenham in his elaborate concentric microscope uses a separate rocker arm with the whole body of the ordinary instrument pivoted above it. My design, which has been constructed by the Bausch & Lomb Optical Co., greatly simplifies the Wenham instrument, and extends the principle contained in Wale's, and makes a very compact, stable and satisfactory stand. The radius of the circular motion is 4½ inches, the stage is 4½ inches in diameter, the concave mirror



has 4½ inches focal length, and the diameter of the mirror may be from 2½ to 3 inches.